H/G-25 Troubleshooting

Cavitation

- Inadequate fluid supply because:
  - — Inlet line collapsed or clogged
  - — Clogged line strainer
  - — Inlet line too small or too long
  - — Air leak in inlet line
  - — Worn or damaged inlet hose
  - — Suction line too long
  - — Too many valves and elbows in inlet line
- Fluid too hot for inlet suction piping system.
- Air entrained in fluid piping system.
- Aeration and turbulence in supply tank.
- Inlet vacuum too high

Symptoms of Cavitation

- Excessive pump valve noise
- Premature failure of spring or retainer
- Volume or pressure drop
- Rough-running pump
- Premature failure of diaphragms
- Piston return spring failure (insed hydraulic end)

Drop in Volume or Pressure

A drop in volume or pressure can be caused by one or more of the following:

- Air leak in suction piping
- Clogged suction line or suction strainer
- Suction line inlet above fluid level in tank
- Inadequate fluid supply
- Pump not operating at proper RPM
- Relief valve bypassing fluid
- Worn pump valve parts
- Foreign material in inlet or outlet valves
- Loss of oil prime in cells because of low oil level
- Ruptured diaphragm
- Cavitation
- Warped manifold from overpressurized system
- O-rings forced out of their grooves from overpressurization
- Air leak in suction line strainer or gasket
- Cracked suction hose.
- Empty supply tank
- Excessive aeration and turbulence in supply tank
- Worn and slipping drive belt(s)
- Worn spray nozzle(s)
- Cracked cylinder casting

Pump Runs Rough

- Worn pump valves
- Airlock in outlet system
- Oil level low
- Wrong weight of oil for cold operating temperatures (change to lighter weight)
- Cavitation
- Air in suction line
- Restriction in inlet/suction line
- Hydraulic cells not primed after changing diaphragm
- Foreign material in inlet or outlet valve
- Damaged diaphragm
- Fatigued or broken valve spring
- Brocken piston return spring (insed hydraulic end)

Premature Failure of Diaphragm

- Frozen pump
- Puncture by a foreign object
- Elastomer incompatible with fluid being pumped
- Pump running too fast
- Excess pressure
- Cavitation
- Broken piston return spring (50)

Water (or Process Fluid) in Oil Reservoir

- Condensation
- Ruptured diaphragm
- Hydraulic cell not properly primed after diaphragm replacement
- Frozen pump
- Diapragm screw O-ring (18) missing or cracked
- Cracked cylinder casting

Strong Water (or Process Fluid) Pulsations

NOTE: Small pulsations are normal in single-acting pumps with multiple pumping chambers.

- Foreign object lodged in pump valve
- Loss of prime in hydraulic cell because of low oil level
- Air in suction line
- Valve spring (13) broken
- Cavitation
- Aeration or turbulence in supply tank

H/G-25 Troubleshooting

Valve Wear

- Normal wear from high-speed operation
- Cavitation
- Abrasives in the fluid
- Valve incompatible with corrosives in the fluid
- Pump running too fast

Loss of Oil

- External seepage
- Rupture of diaphragm
- Frozen pump
- Diapragm screw O-ring (18) missing or cracked
- Worn shaft seal
- Oil drain piping or fill cap loose.
- Valve plate and manifold bolts loose

Premature Failure of Valve Spring or Retainer

- Cavitation
- Foreign object in the pump
- Pump running too fast
- Spring/retainer material incompatible with fluid being pumped
- Excessive inlet pressure.